

SEQUENCE LISTING

<110> Ajinomoto Co., Inc.

<120> Novel Glutamic Acid Receptor and the Use Thereof

<130> C013-OP1435

<140> 2002-10-23

<150> JP 2001-325159

<151> 2001-10-23

<160> 8

<170> PatentIn Ver. 2.0

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<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

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<211> 23

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: primer

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<210> 3

<211> 45

<212> DNA

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<223> Description of Artificial Sequence: primer

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<213> Artificial Sequence

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<223> Description of Artificial Sequence: primer

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22

<210> 5

<211> 23

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: primer

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<211> 1755

<212> DNA

<213> Rattus norvegicus

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<221> CDS

<222> (1)..(1755)

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48

1

5

10

15

gac cga tac ttc tcc agc cgc acg ctc gac aac aac agg cgc aac atc	96
Asp Arg Tyr Phe Ser Ser Arg Thr Leu Asp Asn Asn Arg Arg Asn Ile	
20 25 30	
tgg ttt gcc gag ttc tgg gag gac aac ttc cat tgc aag ttg agc cgc	144
Trp Phe Ala Glu Phe Trp Glu Asp Asn Phe His Cys Lys Leu Ser Arg	
35 40 45	
cac gcg ctc aag aag gga agc cac atc aag aag tgc acc aac cga gag	192
His Ala Leu Lys Lys Gly Ser His Ile Lys Lys Cys Thr Asn Arg Glu	
50 55 60	
cgc atc ggg cag gac tgc gcc tat gag cag gag ggg aag gtg cag ttc	240
Arg Ile Gly Gln Asp Ser Ala Tyr Glu Gln Glu Gly Lys Val Gln Phe	
65 70 75 80	
gtg att gac gct gtg tac gcc atg ggc cac gcg ctc cac gcc atg cac	288
Val Ile Asp Ala Val Tyr Ala Met Gly His Ala Leu His Ala Met His	
85 90 95	
cgt gac ctc tgt ccc ggc cgc gta gga ctc tgc cct cgc atg gac ccc	336
Arg Asp Leu Cys Pro Gly Arg Val Gly Leu Cys Pro Arg Met Asp Pro	
100 105 110	
gtg gat ggc acc cag ctc ctt aag tac atc agg aac gtc aac ttc tca	384
Val Asp Gly Thr Gln Leu Leu Lys Tyr Ile Arg Asn Val Asn Phe Ser	
115 120 125	
ggc att gcg ggg aac cct gta acc ttc aat gag aac gga gac gca ccg	432
Gly Ile Ala Gly Asn Pro Val Thr Phe Asn Glu Asn Gly Asp Ala Pro	
130 135 140	
ggg cgc tac gac atc tac cag tac caa ctc cgc aat ggc tgc gcc gag	480
Gly Arg Tyr Asp Ile Tyr Gln Tyr Gln Leu Arg Asn Gly Ser Ala Glu	
145 150 155 160	
tac aag gtc atc ggc tgc tgg aca gac cac ctc cac ctc aga ata gag	528
Tyr Lys Val Ile Gly Ser Trp Thr Asp His Leu His Leu Arg Ile Glu	
165 170 175	
cgg atg cag tgg cca ggg agt ggc cag cag ctc ccg cgc tcc atc tgc	576
Arg Met Gln Trp Pro Gly Ser Gly Gln Gln Leu Pro Arg Ser Ile Cys	
180 185 190	
agt ctc ccc tgc cag ccc ggg gag cga aag aag act gtg aag ggc atg	624
Ser Leu Pro Cys Gln Pro Gly Glu Arg Lys Lys Thr Val Lys Gly Met	
195 200 205	
gct tgc tgc tgg cac tgc gag ccc tgc acc ggg tac cag tac caa gtg	672
Ala Cys Cys Trp His Cys Glu Pro Cys Thr Gly Tyr Gln Tyr Gln Val	
210 215 220	
gac cgc tac acc tgt aag acc tgc ccc tac gac atg cgg ccc aca gag	720
Asp Arg Tyr Thr Cys Lys Thr Cys Pro Tyr Asp Met Arg Pro Thr Glu	
225 230 235 240	
aac cgc acg agc tgc cag ccc atc ccc atc glc aag ttg gag tgg gac	768

Asn	Arg	Thr	Ser	Cys	Gln	Pro	Ile	Pro	Ile	Val	Lys	Leu	Glu	Trp	Asp	
				245					250					255		
tcg	ccg	tgg	gcc	gtg	ctg	ccc	cic	ttc	ctg	gcc	gtg	gtg	ggc	atc	gcc	816
Ser	Pro	Trp	Ala	Val	Leu	Pro	Leu	Phe	Leu	Ala	Val	Val	Gly	Ile	Ala	
			260					265					270			
gcc	acg	ctg	ttc	gtg	gtg	gtc	acg	ttt	gtg	cgc	tac	aac	gat	acc	ccc	864
Ala	Thr	Leu	Phe	Val	Val	Val	Thr	Phe	Val	Arg	Tyr	Asn	Asp	Thr	Pro	
			275					280					285			
atc	gtc	aag	gcc	tcg	ggc	cgg	gaa	ctg	agc	tac	gtg	ctg	ctg	gcg	ggc	912
Ile	Val	Lys	Ala	Ser	Gly	Arg	Glu	Leu	Ser	Tyr	Val	Leu	Leu	Ala	Gly	
	290						295				300					
atc	ttt	ctg	tgc	tac	gcc	act	acc	ttc	cic	atg	atc	gca	gag	ccg	gac	960
Ile	Phe	Leu	Cys	Tyr	Ala	Thr	Thr	Phe	Leu	Met	Ile	Ala	Glu	Pro	Asp	
305					310				315						320	
ctg	ggg	acc	tgt	tcg	cic	cgc	cgc	atc	ttc	cic	ggg	cic	ggc	atg	agc	1008
Leu	Gly	Thr	Cys	Ser	Leu	Arg	Arg	Ile	Phe	Leu	Gly	Leu	Gly	Met	Ser	
			325					330					335			
atc	agc	tac	gcg	gcc	ctg	ctg	acc	aag	acc	aac	cgc	att	tac	cgc	atc	1056
Ile	Ser	Tyr	Ala	Ala	Leu	Leu	Thr	Lys	Thr	Asn	Arg	Ile	Tyr	Arg	Ile	
			340					345					350			
ttt	gag	cag	ggc	aaa	cgg	tcg	gtc	agt	gcc	ccg	cgt	ttc	atc	agc	ccg	1104
Phe	Glu	Gln	Gly	Lys	Arg	Ser	Val	Ser	Ala	Pro	Arg	Phe	Ile	Ser	Pro	
	355						360				365					
gcc	tcg	cag	ctg	gcc	atc	acc	ttc	atc	cic	atc	tcc	ctg	cag	ctg	cic	1152
Ala	Ser	Gln	Leu	Ala	Ile	Thr	Phe	Ile	Leu	Ile	Ser	Leu	Gln	Leu	Leu	
	370					375					380					
ggc	atc	tgc	gtg	tgg	ttc	gtg	gtg	gac	ccc	tcc	cac	tcg	gtg	gtg	gac	1200
Gly	Ile	Cys	Val	Trp	Phe	Val	Val	Asp	Pro	Ser	His	Ser	Val	Val	Asp	
385					390				395						400	
ttc	cag	gac	caa	cgg	aca	ctt	gac	ccc	cgc	ttt	gcc	agg	ggc	gtg	cic	1248
Phe	Gln	Asp	Gln	Arg	Thr	Leu	Asp	Pro	Arg	Phe	Ala	Arg	Gly	Val	Leu	
			405					410					415			
aag	tgc	gac	atc	tcg	gac	ctg	tcc	cic	atc	tgc	ctg	ctg	ggc	tac	agc	1296
Lys	Cys	Asp	Ile	Ser	Asp	Leu	Ser	Leu	Ile	Cys	Leu	Leu	Gly	Tyr	Ser	
			420					425					430			
atg	ctg	ctg	atg	gtc	acg	tgt	act	gtg	tac	gcc	atc	aag	acc	cga	ggc	1344
Met	Leu	Leu	Met	Val	Thr	Cys	Thr	Val	Tyr	Ala	Ile	Lys	Thr	Arg	Gly	
			435				440						445			
gtg	ccc	gag	acc	ttc	aac	gag	gcc	aag	ccc	atc	ggc	ttc	acc	atg	tac	1392
Val	Pro	Glu	Thr	Phe	Asn	Glu	Ala	Lys	Pro	Ile	Gly	Phe	Thr	Met	Tyr	
	450					455					460					
acc	acc	tgc	att	gtc	tgg	ctg	gcc	ttc	atc	ccc	atc	ttt	ttt	ggc	acc	1440
Thr	Thr	Cys	Ile	Val	Trp	Leu	Ala	Phe	Ile	Pro	Ile	Phe	Phe	Gly	Thr	

465		470		475		480	
tca cag tca gcc gac aag ctg tac atc cag aca acc aca ctg acg gtc	1488						
Ser Gln Ser Ala Asp Lys Leu Tyr Ile Gln Thr Thr Thr Leu Thr Val							
		485		490		495	
tcc gtg agt ctg agc gct tca gtg tcc ctg ggg atg ctc tac atg ccc	1536						
Ser Val Ser Leu Ser Ala Ser Val Ser Leu Gly Met Leu Tyr Met Pro							
		500		505		510	
aaa gtc tac atc atc ctc ttc cac ccg gag cag aac gtg ccc aag cgc	1584						
Lys Val Tyr Ile Ile Leu Phe His Pro Glu Gln Asn Val Pro Lys Arg							
		515		520		525	
aag cgc agt ctc aaa gcc gtg gtc acc gcc gcc acc atg tcc aac aag	1632						
Lys Arg Ser Leu Lys Ala Val Val Thr Ala Ala Thr Met Ser Asn Lys							
		530		535		540	
ttc aca cag aag ggc aac ttc agg ccc aat ggg gaa gcc aaa tca gag	1680						
Phe Thr Gln Lys Gly Asn Phe Arg Pro Asn Gly Glu Ala Lys Ser Glu							
		545		550		555	
ctg tgt gag aac ctg gag acc cca gcg ctg gct acc aaa cag acc tac	1728						
Leu Cys Glu Asn Leu Glu Thr Pro Ala Leu Ala Thr Lys Gln Thr Tyr							
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gtc acc tac acc aac cat gcc atc tag	1755						
Val Thr Tyr Thr Asn His Ala Ile							
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<211> 584

<212> PRT

<213> Rattus norvegicus

<400> 7

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			20					25					30		
Trp	Phe	Ala	Glu	Phe	Trp	Glu	Asp	Asn	Phe	His	Cys	Lys	Leu	Ser	Arg
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His	Ala	Leu	Lys	Lys	Gly	Ser	His	Ile	Lys	Lys	Cys	Thr	Asn	Arg	Glu
	50				55					60					
Arg	Ile	Gly	Gln	Asp	Ser	Ala	Tyr	Glu	Gln	Glu	Gly	Lys	Val	Gln	Phe
65				70				75						80	
Val	Ile	Asp	Ala	Val	Tyr	Ala	Met	Gly	His	Ala	Leu	His	Ala	Met	His
			85					90					95		
Arg	Asp	Leu	Cys	Pro	Gly	Arg	Val	Gly	Leu	Cys	Pro	Arg	Met	Asp	Pro
		100						105					110		

Val	Asp	Gly	Thr	Gln	Leu	Leu	Lys	Tyr	Ile	Arg	Asn	Val	Asn	Phe	Ser	115	120	125
Gly	Ile	Ala	Gly	Asn	Pro	Val	Thr	Phe	Asn	Glu	Asn	Gly	Asp	Ala	Pro	130	135	140
Gly	Arg	Tyr	Asp	Ile	Tyr	Gln	Tyr	Gln	Leu	Arg	Asn	Gly	Ser	Ala	Glu	145	150	155
Tyr	Lys	Val	Ile	Gly	Ser	Trp	Thr	Asp	His	Leu	His	Leu	Arg	Ile	Glu	165	170	175
Arg	Met	Gln	Trp	Pro	Gly	Ser	Gly	Gln	Gln	Leu	Pro	Arg	Ser	Ile	Cys	180	185	190
Ser	Leu	Pro	Cys	Gln	Pro	Gly	Glu	Arg	Lys	Lys	Thr	Val	Lys	Gly	Met	195	200	205
Ala	Cys	Cys	Trp	His	Cys	Glu	Pro	Cys	Thr	Gly	Tyr	Gln	Tyr	Gln	Val	210	215	220
Asp	Arg	Tyr	Thr	Cys	Lys	Thr	Cys	Pro	Tyr	Asp	Met	Arg	Pro	Thr	Glu	225	230	235
Asn	Arg	Thr	Ser	Cys	Gln	Pro	Ile	Pro	Ile	Val	Lys	Leu	Glu	Trp	Asp	245	250	255
Ser	Pro	Trp	Ala	Val	Leu	Pro	Leu	Phe	Leu	Ala	Val	Val	Gly	Ile	Ala	260	265	270
Ala	Thr	Leu	Phe	Val	Val	Val	Thr	Phe	Val	Arg	Tyr	Asn	Asp	Thr	Pro	275	280	285
Ile	Val	Lys	Ala	Ser	Gly	Arg	Glu	Leu	Ser	Tyr	Val	Leu	Leu	Ala	Gly	290	295	300
Ile	Phe	Leu	Cys	Tyr	Ala	Thr	Thr	Phe	Leu	Met	Ile	Ala	Glu	Pro	Asp	305	310	315
Leu	Gly	Thr	Cys	Ser	Leu	Arg	Arg	Ile	Phe	Leu	Gly	Leu	Gly	Met	Ser	325	330	335
Ile	Ser	Tyr	Ala	Ala	Leu	Leu	Thr	Lys	Thr	Asn	Arg	Ile	Tyr	Arg	Ile	340	345	350
Phe	Glu	Gln	Gly	Lys	Arg	Ser	Val	Ser	Ala	Pro	Arg	Phe	Ile	Ser	Pro	355	360	365
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Gly	Ile	Cys	Val	Trp	Phe	Val	Val	Asp	Pro	Ser	His	Ser	Val	Val	Asp	385	390	395
Phe	Gln	Asp	Gln	Arg	Thr	Leu	Asp	Pro	Arg	Phe	Ala	Arg	Gly	Val	Leu	405	410	415
Lys	Cys	Asp	Ile	Ser	Asp	Leu	Ser	Leu	Ile	Cys	Leu	Leu	Gly	Tyr	Ser	420	425	430
Met	Leu	Leu	Met	Val	Thr	Cys	Thr	Val	Tyr	Ala	Ile	Lys	Thr	Arg	Gly	435	440	445
Val	Pro	Glu	Thr	Phe	Asn	Glu	Ala	Lys	Pro	Ile	Gly	Phe	Thr	Met	Tyr			

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Thr	Thr	Cys	Ile	Val	Trp	Leu	Ala	Phe	Ile	Pro	Ile	Phe	Phe	Gly	Thr
465					470					475					480
Ser	Gln	Ser	Ala	Asp	Lys	Leu	Tyr	Ile	Gln	Thr	Thr	Thr	Leu	Thr	Val
485					490					495					
Ser	Val	Ser	Leu	Ser	Ala	Ser	Val	Ser	Leu	Gly	Met	Leu	Tyr	Met	Pro
500					505					510					
Lys	Val	Tyr	Ile	Ile	Leu	Phe	His	Pro	Glu	Gln	Asn	Val	Pro	Lys	Arg
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Lys	Arg	Ser	Leu	Lys	Ala	Val	Val	Thr	Ala	Ala	Thr	Met	Ser	Asn	Lys
530					535					540					
Phe	Thr	Gln	Lys	Gly	Asn	Phe	Arg	Pro	Asn	Gly	Glu	Ala	Lys	Ser	Glu
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Leu	Cys	Glu	Asn	Leu	Glu	Thr	Pro	Ala	Leu	Ala	Thr	Lys	Gln	Thr	Tyr
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Val	Thr	Tyr	Thr	Asn	His	Ala	Ile								
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